Case Study

Engineering sweet proteins at scale to improve population health

Joywell

Joywell + Benchling

Make it easier to capture and access high-quality data so that the company can ultimately engineer its sweet proteins faster, at larger scale, and for lower costs.

Joywell is on a mission to bring joy and wellness to people by delivering sweet protein products that reproduce the sweetness of sugar without the adverse health repercussions. The company's goal is to replace sugar with nutritious sweet proteins — helping to fight diabetes, heart disease, and other harmful effects of sugar. To accomplish this goal, Joywell needs to ensure their single batch fermentation processes can be translated to industrial production levels and sweet proteins can reach consumers at scale.

Company Profile

Number of Employees
11-50

Industry
Industrial Biotech

Location
Davis, CA

↑ productivity

Scientists save hours per week on data capture and entry

Real-time insights

Automatic dashboards and reports save scientists time, eliminating manual, tedious steps

Faster decision making

Executives get real-time insight into performance to help guide business strategy

"Data is everything. The quality, the accessibility, communicating results and then making decisions. Having that all in one place as early-on as possible enables you to do better experiments, ask better questions and solve problems more quickly in a way that gets us more value per experiment."

Jason Ryder
Founder & CTO

Joywell

Challenges addressed

Data lacked context, making it difficult and time consuming to make business decisions

Data scattered across multiple people, notebooks, and machines, resulted in weeks of extra work and prevented teams from answering important business questions quickly.

Teams struggled to aggregate large sets of data

Data generated by different instruments would come out in different formats, requiring scientists to perform a manual, tedious last step of standardizing 10-20 different file formats or risk leaving questions unanswered.

Commercial readiness required a flexible solution that can scale across teams, partners, & geographies

To meet its ambitious goals to replace sugar with sweet proteins, Joywell needed to ensure its processes are robust and repeatable not just within its lab but also at partner labs.

> "We did an exhaustive search across all of the technologies, and the team and I selected Benchling, not just because of our own impressions, but also from those of many of our friends working in the industry. Not only was the molecular biology functionality far and above better than any other we had ever used before but having a single database that could aggregate all our data allows us to do better experiments, to ask better questions, to solve problems more quickly in a way that gets us more value per experiment.

Jason Ryder
Founder & CTO, Joywell

Outcomes delivered

Connected database with collaboration built in

Benchling's R&D Cloud, with its focus on biology, is designed to support the types of scientific experiments that Joywell conducts, such as strain engineering and fermentation. By storing standardized data from multiple experiments and various instruments in a single database, Benchling makes valuable data more accessible, saving time and facilitating collaboration.

Structured data capture eliminates manual data aggregation and puts instantaneous data queries at scientists' fingertips

Strain engineering and fermentation teams no longer need to spend hours reformatting data, inputting large datasets into spreadsheets by hand or manipulating the data to gain insights. With Benchling, scientists get to see their data contextualized visually, right away to help them make decisions.

Improved collaboration and scalability supports commercialization and growth

Joywell can easily track critical success metrics during fermentation and downstream processing like titer, microbial productivity, purity, recovery yield. Then, using Insights, they can easily communicate that to prospective tech transfer partners with one simple graph showing the process is ready and inherently scalable. The company has already completed three tech transfers as a result. To make its products accessible and affordable for everyone, completing these tech transfers is critical to produce its products at larger and larger scales.